

REMARKS

In view of the above amendments and following remarks, reconsideration and further examination are requested.

Claims 32, 33 and 48-53 have been amended; claim 47 has been canceled; and claim 54 has been added.

In the Final Rejection mailed December 8, 2006: claims 35-39 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement; claims 32, 40-41, 47 and 53 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Espiritu in view of Takahashi et al.; claim 33 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Espiritu and Takahashi et al. in view of Saiki et al.; claim 49 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Saiki et al. in view of Takahashi et al.; claims 34 and 39 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Espiritu, Takahashi et al. and Saiki et al. in view of Koura et al.; claim 35 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Espiritu, Takahashi et al., Saiki et al. and Koura et al. in view of Sumiyama; Claims 36 and 38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Espiritu, Takahashi et al., Saiki et al. and Koura et al. in view of Czerwinski; claim 37 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Espiritu, Takahashi et al., Saiki et al. and Koura et al. in view of Irby et al.; claim 42 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Espiritu and Takahashi et al. in view of Sumiyama.; claim 50 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Sumiyama in view of Takahashi et al.; claims 43 and 45 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Espiritu and Takahashi et al. in view of Czerwinski; claims 51 and 52 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Czerwinski in view of Takahashi et al.; claim 44 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Espiritu and Takahashi et al. in view of Irby et al.; and claims 46 and 48 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Espiritu and Takahashi et al. in view of Koura et al.

In reply to the 35 U.S.C. § 112, first paragraph, rejection, the dependency of claim 34 has been changed from “33” to --32--.

The prior art rejections are respectfully traversed, and the relied-upon references are not applicable with regard to the currently presented claims for the following reasons.

Initially, it is respectfully submitted that, contrary to the position taken by the Examiner, one having ordinary skill in the art would not have determined Takahashi et al. to disclose a foamed resin including an independent foam and a continuous foam. In this regard, Takahashi et al. discloses in paragraph [0014] that the “polyimide foam material is a continuous foam material having an independent foam ratio of one percent or less”. This would be interpreted by one having ordinary skill in the art to mean that the polyimide foam material should preferably be a completely continuous foam material; however, in practice, it is difficult to mass produce 100 percent continuous foam resin, and accordingly, an amount of independent foam of less than one percent is allowed. That is, one having ordinary skill in the art recognizes that continuous foam is produced by destroying originally formed independent foam by applying pressure; however, it is very difficult to cost-effectively completely destroy all the independent foam. Thus, what Takahashi et al. teaches to one having ordinary skill in the art is a diaphragm that includes 100 percent continuous foam.

To the contrary, with the instant invention, the amount of independent foam does not correspond to an insubstantial residual amount, but rather, as shown in Figs. 3, 4, 5 and 18, the ratio of independent foam (closed round shapes 17a in the figures) to the continuous foam (connected long shapes 17b in the figures) is far more than one percent, which ratio can be determined, at least in a cross-section of the edge, by comparing the area of the closed round-shapes 17a with the area of the long shapes 17b.

Additionally, in the present invention, a skin layer, which is necessary in Takahashi et al. to obtain high frequency sound reproduction (paragraph [0022]), is not required because the combination of the independent foam and continuous foam forms a gas-tight structure, as disclosed on page 5, lines 24-25, of the original specification. Though a skin layer may be provided, there is no clear interface between the skin layer and the foamed resin, as disclosed

from page 5, line 30 to page 6, line 1 of the original specification. To the contrary, it is necessary to form a skin layer in Takahashi et al. to account for air permeability and to improve high frequency sound reproduction, because the continuous foam permeates air significantly. It appears as though the Examiner equates “air permeability” to “expansion ratio”; however, these two features are completely different from one another. In this regard, even if a large value of “expansion ratio” exists, “air permeability” does not exist if the foamed resin includes a substantial amount of independent foam. With the instant invention, the edge made of a combination of independent foam and continuous foam does not have air permeability, or it is “gas-tight” as disclosed in the specification. This difference between the instant invention and Takahashi et al. is a direct result of Takahashi et al. seeking to employ 100 percent continuous foam, whereas with the instant invention a combination of continuous foam and independent foam is employed.

In view of the above, it is respectfully submitted that the requirement of an edge including both an independent foam and a continuous foam would not be found by one having ordinary skill in the art to have resulted from a combination of the teachings of Takahashi et al. and those of any of the other references. Thus, for this reason alone the currently presented claims are allowable.

Additionally, though Takahashi et al. does disclose a continuous foamed polyimide as a preferable material for a diaphragm, this references does not disclose this material as a preferable material for an edge that is a separate member relative to the diaphragm and bonded thereto. Accordingly, assuming *arguendo*, that Takahashi et al. does disclose a combination of independent foam and continuous foam as taught by the instant invention, this combination is shown to be for the diaphragm itself and not for an edge bonded to the diaphragm. As such, any combination of references as suggested by the Examiner would not include an edge bonded to the diaphragm, which edge includes a combination of continuous foam and independent foam.

To clearly bring out this distinction in the claims, each of independent claims 32 and 48-53 has been amended to require that **the edge is a separate member relative to the diaphragm**

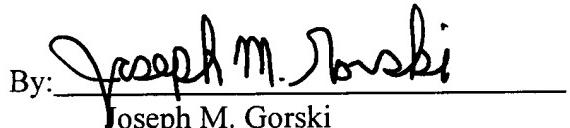
and bonded thereto. Thus, for this additional reason the currently presented claims are allowable.

In view of the above amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and an early Notice of Allowance is earnestly solicited.

If after reviewing this Amendment, the Examiner believes that any issues remain which must be resolved before the application can be passed to issue, the Examiner is invited to contact the Applicants' undersigned representative by telephone to resolve such issues.

Respectfully submitted,

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